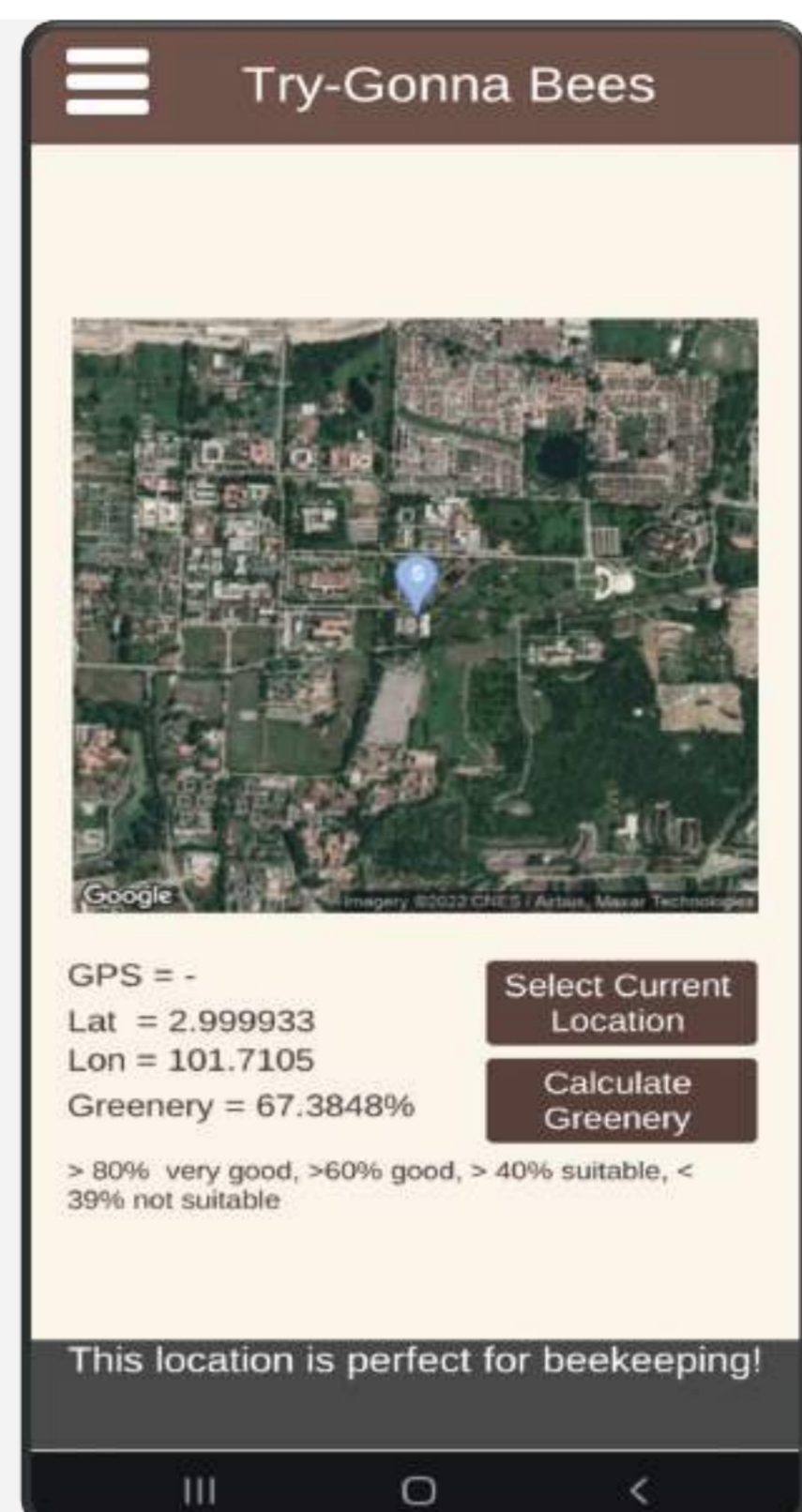


Try-Gonna Bee Apps: Ensuring Food Security through App-Guided Urban Beekeeping

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BRIEF TECHNOLOGY

Try-Gonna Bee is a unique mobile app that helps beekeepers find suitable locations for stingless bees' beehive installation. It determines the greenery ratio and luminance of an area using images retrieved by GoogleMaps API using GPS, and then makes recommendation based on it. It also tracks the progress of the hives. It provides notification to beekeepers when the time is ready to perform certain tasks such as maintain the colony, collect the honey, etc. This ensures that the colony of bees under the care of novice beekeepers has better survival chance.

PROBLEM STATEMENT & CURRENT ISSUES

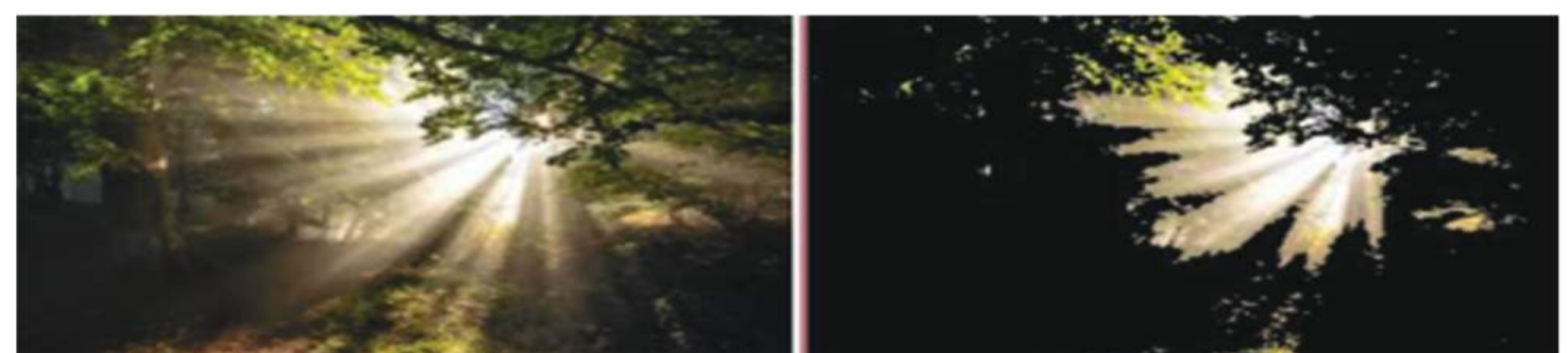
- The declining bee population due to habitat loss, pesticides, climate change, diseases, and human fear is concerning, as bees play a vital role as pollinators for fruit crops.
- To address the issue and promote bee populations in Malaysia, Suburban Beekeeping has emerged as a hobby. However, not much guidance and support for novice beekeepers / bee enthusiasts

INVENTIVENESS & NOVELTY

Try-Gonna Bee assists users in identifying whether a location is suitable for beehive installation, as well as tracking the progress of the hives, in an interactive and user-friendly way. Try-Gonna Bee provides notification to beekeepers when the time is ready to perform certain tasks such as maintain the colony, collect the honey, etc. This ensures that the colony of bees under the care of novice beekeepers has better survival chance.

SOLUTION

- The suitability of a location to install a stingless beehive based on the greenery ratio and luminance of an area.
- For greenery detection, the image retrieved by Google Maps API using GPS is thresholded using the hue and saturation filtering to calculate the greenery ratio of the current selected location.
- For luminance detection, the luminance of the image captured on four sides (North, East, South, West) will be calculated using the luminance algorithm.



USEFULNESS & APPLICATION

- Try-Gonna Bee app can be offered as an added-value support app with companies that sell beekeeping starter kits (beehives, honey pump, etc.).
- Novice beekeepers can start their beekeeping activity more confidently with the app-based guidance
- The app is low-cost, accessible, easy to learn and use, minimum maintenance and requires no additional hardware (all the sensors used are from the camera, gyroscope and accelerometer sensors which are already built-in in regular mobile phones)

IMPACT OF THE PRODUCT

Try-Gonna Bee app show promise in encouraging beekeeping, particularly among the younger generation, and contribute to preserving bee populations and ensuring food security in Malaysia (SDG11, 12, 13, 15).

MARKET POTENTIAL

Potential market is aimed at inexperienced beekeepers who want to try suburban beekeeping, school / college science project, and as an educational science startup kit set.

TRL : 7 - Demonstration of Prototype



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